DEPARTMENT OF DEFENSE BLOGGERS ROUNDTABLE WITH STEPHEN GOLDBERG, PH.D., UNITED STATES ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES; ROBERT SOTTILARE, RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND, SIMULATION AND TRAINING TECHNOLOGY CENTER VIA TELECONFERENCE FROM ORLANDO, FLORIDA TIME: 1:00 P.M. EDT DATE: THURSDAY, JULY 10, 2008

        (Note: Please refer to www.dod.mil for more information.)

        MODERATOR: Okay. We'll go ahead and get started. And like I say, if Christian joins us, he can certainly just join the call late.

        Again, we have -- we're having Army Bloggers Roundtable here. We have Dr. Stephen Goldberg and Mr. Robert Sottilare. They conduct and manage research on applying new technologies to Army training, and it includes both the hardware and software used to create virtual training environments and the methods and tools that produce effective learning and performance.

        Dr. Goldberg is a psychologist who leads a group of researchers who focus on the development of effective performance feedback tools. Mr. Sottilare is an engineer and is deputy director of an Army research organization. So they offer kind of both sides of the   equation about how they develop these technologies and then how they're used by soldiers.

        So I'll go ahead and let them go ahead and get started with their opening remarks. Once they're done with their opening remarks, we'll open to your questions.

        MR. GOLDBERG: Well, I think you did a good job of saying a lot of the -- I'm Steve Goldberg and I represent the U.S. Army Research Institute for the Behavioral and Social Sciences. And with me here today is Bob Sottilare. He's from the Research, Development and Engineering Command's Simulation and Training Technology Center.

        My group is about 10 folks. And we're a research unit within the Army Research Institute. And Bob, his whole organization is -- what, about 40?

        MR. SOTTILARE: About 40 people.

        MR. GOLDBERG: About 40 folks. And our two organizations are co-located in the same building in Orlando, Florida. We're here in Orlando primarily because this is the location where the Army buys training devices and simulators. And, you know, we've been kind of the R&D arm of that operation for some time now.

As Lindy (sp) said, my group is primarily research psychologists and backgrounds are in human factors, psychology and experimental and learning and motivation, those kinds of things. And Bob's an engineer. And you want to -- you want to describe your organization a little bit?

MR. SOTTILARE: Sure, our group is primarily engineers and scientists. They're looking at research that leads to technology that make training cheaper, better and more affordable in terms of time, those kinds of things. And so if it's kind of better, faster, cheaper, we're looking at research methods to improve training systems.

MR. GOLDBERG: And, you know, since both our organizations kind of represent a different perspective on what amounts to a similar problem, training soldiers -- they're the same the problem -- you know, it makes a lot of sense for us to be co-located and for us to work together on various projects. And we do do that.

So one example of that from the past was we've been heavily involved in looking at, you know, what does it take to put a dismounted soldier into a virtual simulation? They do pretty well with vehicles but, you know, being able to take somebody, you know, who's not in a simulator and put them into that environment has proved to be, you know, relatively difficult. And we've been working on that. And then in recent months, we've been collaborating on the kind of extension of virtual reality and virtual training, which is use of game technologies for Army training. And in particular, we're interested in how to design, develop and utilize those technologies within a distributed setting, so having soldiers at different locations be able to, you know, essentially dial in to the same environment and carry out training together, even though they're not co-located. There are obviously a lot of advantages to that, and especially in the current places the Army finds itself, because those kinds of environments have lent themselves for much better ability to bring cultural factors into the mix and other kinds of situations that you'd find in urban-type environments.

One thing that we're involved in right now that's going to actually take place next week is kind of the crawl part of a three- phase effort, is we're working with researchers and soldiers in the United Kingdom, and we're going to be bringing them via a distributed game into an environment to carry out some military operations together as a coalition at the very lowest level. So next week we'll be rescuing the embassy personnel from some small, unknown country.

So that's pretty much -- you got anything else you want to add?

MR. SOTTILARE: No, not at this time. Wait for the questions.

MODERATOR: Okay, does anybody have a question?

Q   This is Jonas with News Herald. I guess I'll start.

MR. SOTTILARE (?): Okay.

Q   And I think I have somewhat of a handle on what you do. I guess my question kind of relates back to using simulators, games and that sort of stuff. And I'm sure that you're probably familiar with Lieutenant Colonel Dave Grossman, his book, "On Killing"?

MR. GOLDBERG: Right.

Q   You know, and his quote -- I'm sure you've heard it, but for anyone that hasn't -- you know, "We are reaching a stage of desensitization in which inflicting of pain and suffering has become a source of entertainment. We are learning to kill and we are learning to like it."

And in a lot of ways, I guess on the surface that kind of seems like -- and I know militaries have done this forever. When I went to basic training, we shot at little plastic targets with red stars on them. But I guess, how do you defuse those concerns?

MR. GOLDBERG: Well, I think -- well, like you said, I mean, I don't think that these games glorify that aspect of it. As a matter of fact, in a lot of these situations, particularly the urban kinds of situations that we were discussing, the goal is not shooting at all. You know, the goal is interacting and solving problems. And, you know, so there's actually very little emphasis on the shooting part. It's mostly movement, command and control, and that kind of thing.

So, you know, I don't think that it's -- it's certainly not overly emphasized in these games. As a matter of fact, it's de- emphasized. And, you know, there's no blood, there's no gore, there's -- you know, that kind of thing.

MR. SOTTILARE: Let me give you some examples of some of the things that we do. Like, one of the things that we look at is, you know, you're taking young soldiers, young officers, and they're going   to different parts of the country. And so, enhancing their awareness of the culture in the countries that they're going to so that they can better communicate, so that they can understand the culture and negotiate with the population that's there, so that, you know, you can get win-win types of situations coming out of those interactions. That's the type of -- you know, the focus that has been placed primarily in these game-based training environments.

MR. GOLDBERG: So in particular, I mean the one that we're doing next week is pretty much oriented on, you know, bringing a force in and, you know, it's more of a rescue operation than it is anything else.

Q   Okay. Well, that really helps. I was apparently completely under the wrong impression under the sort of work you guys were doing, then.

MR. GOLDBERG: These games are essentially meant to provide soldiers with a myriad of experiences in developing situational awareness -- where they are, where their buddies are -- and potentially where the enemy might be. You know, the realism of the engagement piece is actually minimal.

Q   Well, let me follow up on that question. This is Galrahn from Information Dissemination. It sounds like you're developing virtual worlds for introducing cultural experiences, signs, perhaps a little bit of language, that type of exposure to the soldiers, and then from a tactical perspective you're talking about command and control and those type of organizations. So these games are not necessarily designed as a tactical simulation as much as it is a cultural simulation. Is there a political element? Is it, you know, designed to get people to think strategic? I'm just trying to figure out -- because my impression, just reading the handbook before getting on this call, was that it was more than just tactics, but I wasn't sure how much more.

MR. SOTTILARE: Which handbook?

MR. GOLDBERG: What handbook are you referring to?

Q   I'm just talking about looking up what you guys have published and stuff, because, you know, there's not a whole lot of information out there about what you guys are doing.

MR. GOLDBERG: I would say that, you know, it definitely does get at tactics, because, you know, part of the issue here is movement, techniques, and making sure you have 360-degree coverage.

And you know, one of the pieces to all this that we've developed is an after-action review capability that allows you to, you know, see where everybody's looking, see where they've all gone, review how they did what they did and why and what they could do better the next time.

Now, the other aspects, I think, add a dimension to this kind of capability that many of the first-person shooter games didn't have. You know, so for example, the game that we'll be using next week, you know, has the ability for avatars to gesture in culturally correct ways. And there are going to be role players that, you know, have the cultural aspects down.

MR. SOTTILARE: What's represented in that environment is, you know, the dress, you know, cultural dress. You're representing a Middle Eastern environment. It looks like you're in a Middle Eastern environment both from the clothing perspective, from the buildings and the urban environment perspective and then the interactions that you might have. Obviously culture could fall into that.

We did an exercise a couple years back with this same environment in which, since this is a role-playing game, we actually, you know, we actually brought in -- so we wanted to have Middle Eastern culture represented. So we had Middle Eastern people come in and represent that culture, so that we didn't have to program that in. It was represented.

Q   Are the games AI-driven? Or are they --

MR. SOTTILARE: Some parts of them. This particular one happens to be a role-playing game. It's also interfaced to some artificial intelligence, so that you can populate the space easily without having to have hundreds of people sitting there, behind sticks at computers, moving avatars around.

So there's a mix of in order to fill the environment out, we use artificial intelligence. In order to prompt decision-making in particular areas, you know, we want to present them with situations where the trainees, that they'll make decisions.

So this is a support tool. AI supports that decision process. But for the most part, you know, there's a few trainees. There could be many trainees, but there's a few trainees. And then there's a lot of artificial intelligence behind avatars.   MR. GOLDBERG: Then there are role players who might take on, you know, one person might have four different roles in a particular scenario. You know, they could be the village chief and, you know, a translator or a policeman or something, you know, in part of the scenario a little bit later.

Q   Now, Bob, are you writing these games in house? Or are they being written by industry?

MR. SOTTILARE: They're primarily being done by industry, in which we take a game engine, look at a game engine. Then we build upon that game engine. So the plug-in, if you will, that sits on top of that game engine is done by us.

The thing that sits underneath it -- you know, the actual physics engines and all the interactions and the network protocols and all that -- that stuff is done -- that stuff is usually a commercial game engine. Or it might be, in the case of -- one of the game engines we use is Delta3D. That happens to be a government game engine, open- source game engine.

Q   Has there been any thoughts of the Army utilizing the commercial products that are out there for larger, I mean, I know that the Army has done some work with the gaming industry to -- you know, team up is kind of not really the right word. But they worked with each other in order to create these games that the industry is selling on the commercial market.

I was just curious if there's any interest in introducing training or some sort of interaction between Army and getting more exposure in, say, the larger MMOs that are already in the Asian theater or already in the Eastern European theaters or those types of things, for more exposure to cultural and language, those types of things.

MR. GOLDBERG: Well, I think there's a couple of things. One is that, you know, there's a big difference between a game that was developed for entertainment and a game that's developed as a training tool.

So you know, there are commercial games that have been altered to provide training. For example, DARPA had a program that took a commercial game and created an Army game called Ambush! That's been, you know, fairly widely disseminated.

So that, you know, that's an example where, you know, you had an underlying game that had a lot of functionality in it. But it was modified so that it would present the task and conditions that the Army was interested in and, you know, set up the scenarios that the Army was interested in.

MR. SOTTILARE: Does that answer your question?   Q   Yeah. I was just wondering. I mean, like, Ambush! was the one I was thinking of actually. So he answered it pretty clearly.

MR. GOLDBERG: But there was, you know, there was a fair amount of DARPA money that went into Ambush! to turn it, you know, into a training system. And actually the Army, I guess, is now in the process of kind of looking around for the next Ambush! But that's on a more procurement side, not on the R&D side.

Q   Sure. You would imagine that would be in a virtual-world scenario. That would be where you would want to get into the market anyway, because you would be more exposed.

Another question I have regarding the training is, you guys were talking about just the Army. You're going to be interacting with the British. Are there other services that are able to interact within these simulations that you're developing, more of a joint training?

MR. SOTTILARE: As Steve explained early on, this exercise that's going on next week, this experiment that's going on next week, the crawl phase of a crawl-walk-run, what we're doing right now is we've got -- this is an Army-only, ground-only exercise for the most part.

And then the next aspect will be, you know, we'll start to bring in some air assets that are primarily AI-driven, so that at least they're represented in the environment. And the avatars have an opportunity to interact with those aviation assets.

And the third phase of this is to actually interact with the Air Force Research Lab or other aviation coalition partners, so that we can have air and ground teaming, so that you get a picture of everything that's going on in the battlefield.

MR. GOLDBERG: The Air Force has actually been doing these coalition mission training exercises in the R&D world for a few years now, under the auspices of an organization called The Technical Cooperation Program, TTCP.

Q Dr. Goldberg, I've got a question for you. I know in a university sitting pretty any sort of social science research is -- you've got a university ethics oversight committee there. How does -- is there any ethical oversight for your research, or how does that work?

MR. GOLDBERG: Well, it works actually the same way. We're governed by essentially the same rules that universities go by. Within our organization we have a human use committee that reviews the research protocols for any potential risk to human safety or health, as well as disclosure of information.

So -- and one of the things -- like, for example, this exercise next week -- each of the soldiers who will be participating will have -- you know, will be a volunteer and will be given an informed consent form to sign that will tell them, you know, what they're getting involved in. And I'm not sure there are, you know, very many potential risks in this kind of a thing, but if there were, that would be on -- it would be on that sheet.

LT. CRAGG: Okay. Do we have any other questions? (Pause.) If not, we can go ahead and wrap up. I don't -- do you have any closing remarks, Mr. Sottilare, or Dr. Goldberg?

MR. SOTTILARE: Do you want to go first?

MR. GOLDBERG: No, go ahead.

MR. SOTTILARE: Okay. Just kind of to recap, the things that we're focused on, you know, are a little bit different than or quite a bit different than Dr. Goldberg's group. We're focused on, you know, engineering-level problems, looking at human-computer interaction types of problems, looking at some use problems, but from, you know, like a network perspective, how do I distribute data in a distributed simulation to ensure that maybe, you know, I've got timely communication, no latencies; I've got bandwidth to accommodate it; I'm able to meet my learning objectives; and that the system, the technology is not a drawback to reaching those objectives. So that's kind of our focus.

And I'll let -- (off mike) -- at this point.

MR. GOLDBERG: And as I said, we're psychologists, and our focus is on the training methods that are used, performance measurement,   both tools and processes that would be employed, and then the way that feedback would be administered to try to improve performance.

And we're also obviously very interested in the effectiveness of these simulations to impart new knowledge.

LT. CRAGG: Great. Well, thank you again so much for your time. Thank you. For those that participated, again, a transcript will be available. You can also hear the audio feed. If you have any follow- up questions that you think of, please feel free to send them my way, and I will certainly try to follow up on those. And hopefully maybe we can get an update on how the upcoming exercise with the U.K. went. That's certainly of interest to me.

But thank you again, everyone, for your time. This concludes the roundtable.

Q   Thank you for the opportunity,

MR. GOLDBERG: Thank you.

MR. SOTTILARE: All right. Thank you.

Q   Thank you.

Q   Thank you, gentlemen.

MR. GOLDBERG: Bye-bye.

END.